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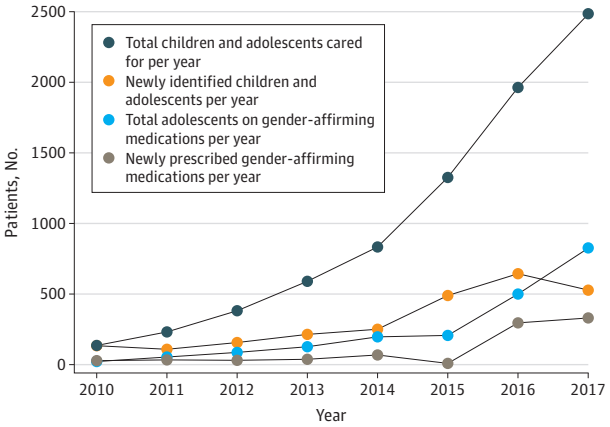
Figure. Trends in Health Care Use and Gender-Affirming Prescriptions Among Transgender and Gender-Diverse Youth in the Military Health Care System



Year represents military fiscal years (October 1 to September 30). Gender-affirming care for dependents was first authorized on September 6, 2016; 2017 represents a partial year of data (October 1, 2016, to April 30, 2017).

Transgender Children and Adolescents Receiving Care in the US Military Health Care System

In the United States, approximately 0.7% of the population identify as transgender.[1] Transgender and gender-diverse (TGD) youth may experience poor health outcomes and identity-based discrimination within the health care setting.[2,3] However, these disparities may be attenuated in gender-affirming environments.[3,4] Until September 2016, gender-affirming care was not covered for the 1.7 million youth who may be eligible for military health system (MHS) care based on their parents' current or prior service. At that point, a new Department of Defense policy was enacted that allowed military dependents to receive full coverage for nonsurgical TGD-associated care.[5] However, the extent to which military-affiliated TGD youth receive military-provided and civilian care paid for through Tricare Prime, a MHS insurance plan, is unknown. The current study aims to determine health care use trends among TGD youth in the MHS, which provides services at no or low personal cost. These data will help inform future policy and determine the necessity of health care professional training and resource allocation.[6]

Methods | We performed a retrospective trend study using the MHS Data Repository. *International Classification of Diseases, Ninth Revision* (*ICD-9*) and *Tenth Revision* (*ICD-10*) codes identified visits indicating a TGD diagnosis in the MHS direct care and civilian purchased care systems in fiscal years 2010 through 2017 among children and adolescents (excluding service members and spouses) aged 4 to 25 years. Outpatient pharmacy records identified gender-affirming prescriptions. This project was approved by the institutional review board at the Uniformed Services University. The deidentified nature of the data made informed consent unnecessary.

Poisson regression determined trends, linear regression modeled rates-in-rise changes, and *t* tests compared trends in TGD and attention-deficit/hyperactivity disorder diagnoses for children aged 4 to 18 years. Adjusted logistic regression analysis identified factors associated with gender-affirming prescriptions. Stata Intercooled 13 (StataCorp) was used for statistical analysis. All *P* values less than .05 were considered statistically significant. Data analysis occurred from February 2018 to October 2018.

Results | Between October 2009 and April 2017, 2533 youth received TGD-associated care in 6735 separate visits. The incidence of those seeking TGD-associated care significantly increased, from 135 individuals in 2010 to 528 individuals in the first part of 2017 (relative risk, 1.31 [95% CI, 1.21-1.41]; $P < .001$; **Figure**). The prevalence also increased (relative risk, 1.50 [95% CI, 1.45-1.59]; $P < .001$), a significantly higher rate-in-rise than for attention-deficit/hyperactivity disorder (t_{12}, 7.04; $P < .001$). Of the 2533 youth, 1649 (65.1%) had female as their first recorded sex; 109 individuals (4.3%) completed a gender marker change. Included individuals were tracked for as many as 7.5 years; most of the cohort was tracked for the full length, creating a median of 7.5 (interquartile range, 7.5-7.5) years. The median age of the first gender-associated appointment was 17 (interquartile range, 14-19) years. The mean (SD) number of appointments was 10.4 (6.2; **Table**). Of the patient cohort, 168 (6.6%) had sponsors with lower enlisted ranks, which may indicate lower socioeconomic status.

A total of 834 individuals received gender-affirming prescriptions; of these, 550 (65.9%) had female as their first-recorded sex. New prescriptions for gender-affirming hormones increased significantly, from 24 in 2010 to 332 in the first part of 2017 (relative risk, 1.62 [95% CI, 1.44-1.82]; $P < .001$; Figure). Logistic regression analysis indicated that the number of patients receiving gender-affirming prescription medication increased with older age at presentation for transgender care (adjusted odds ratio [aOR], 1.16 [95% CI, 1.13-1.19]) and

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Table. Demographics and Health Care Use of Transgender and Gender-Diverse Youth in the Military Health Care System

Measure	No. (%)
First recorded sex	
Male	884 (34.9)
Female	1649 (65.1)
Care record	
Age at time of first transgender visit, median (IQR), y	17 (14-19)
No. of visits per patient	
Median (IQR)	4 (2-13)
Mean (SD)	10.4 (6.2)
Years tracked in military health system, median (IQR)[a]	7.5 (7.5-7.5)
Age range at first presentation, y	
4-9	154 (6.1)
10-14	497 (19.6)
15-17	872 (34.4)
18-19	525 (20.7)
20-25	485 (19.2)
Military sponsor's rank at time of first visit[b]	
Junior enlisted	168 (6.6)
Senior enlisted or warrant officer	1769 (69.9)
Officer	593 (23.4)
Military sponsor's duty status at time of first visit	
Active	1487 (58.7)
Retired	1046 (41.3)
Patients receiving hormone prescriptions	
Puberty suppression	99 (3.9)
First prescription age, median (IQR), y	14.7 (13.4-17.2)
Time receiving medication, median (IQR), d	360 (90-988)
Feminizing hormones	279 (11.0)
Median first prescription age, median (IQR), y	19.2 (17.4-20.8)
Time receiving medication, median (IQR), d	540 (210-998)
Masculinizing hormones	521 (20.6)
First prescription age, median (IQR), y	19.1 (17.6-20.6)
Time receiving medication, median (IQR), d	332 (128-570)

Abbreviations: IQR, interquartile range; MHS, military health system.

[a] Median, 25th-percentile, and 75th-percentile values are identical because most participants were tracked for the entirety of the 7.5-year study period.

[b] For included youth with sponsors who have retired from service, the rank reflects the status at retirement.

a sponsor of senior enlisted rank (aOR, 1.60 [95% CI, 1.06-2.41]) or officer rank (aOR, 1.16 [95% CI, 1.13-1.19]), compared with a sponsor with junior enlisted rank. First recorded sex and sponsor status (active duty or retiree) were not significantly associated with gender-affirming prescriptions.

Discussion | This study assessed TGD-associated services among US military-affiliated youth. Health care use and pharmaceutical treatment for TGD-associated services increased significantly between 2010 and 2017, indicating that adequate coverage for this patient population is needed. Prescriptions for gender-affirming treatment increased with higher parental rank, suggesting possible health care inequity. This study was limited by the inability to capture non-MHS funded care, or *ICD-9* or *ICD-10* proxy codes (eg, endocrine disorder), or services prior to 2010, which may result in misclassification of some patients with previous care as having incident cases and would thereby underestimate the trend. Health care use patterns among this population are likely underestimated because of shifting enrollment time frames and underreporting of care before Department of Defense policy changes. Increased health care use is likely associated with military policy changes and societal care trends. Future research is needed to inform health care education, outcomes, and resourcing.

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